WHAT IS CLAIMED IS:

1. A scanning laser microscope comprising:

a laser beam source which outputs laser beam;

a dispersive element which disperses light emitted from a sample when irradiating the sample with the laser beam and makes spectrum;

an image formation element which forms an image of the spectrum made by the dispersive element;

a wavelength band extraction portion which is arranged in the vicinity of the image position of the spectrum formed by the image formation element and extract light in at least one wavelength band from the spectrum;

at least one photodetector which detects the light in the wavelength band extracted by the wavelength band extraction portion;

at least one optical element which is selectively arranged between the sample and the dispersive element; and

a correction portion which corrects a positional relationship between the wavelength band extraction portion and a position of the spectrum image which is displaced in the dispersion direction due to a change in an angle of the light entering the dispersive element caused by switching the optical element.

2. The scanning laser microscope according to claim 1, wherein the optical element includes exciting

beam splitters which can separate the light emitted from the sample from the laser beam, and can be switched to each other.

3. The scanning laser microscope according to claim 2, wherein the correction portion previously stores a plurality of correction quantities corresponding to the respective displacements of the spectrum image position relative to each of the exciting beam splitter, and corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity relative to the exciting beam splitter when switched to this exciting beam splitter.

4. The scanning laser microscope according to claim 3, wherein the wavelength band extraction portion has a variable slit movable in the same direction as the spectrum direction, and

upon switching the exciting beam splitter, the correction portion moves the variable slit in the spectrum direction in accordance with the correction quantity relative to this exciting beam splitter.

5. The scanning laser microscope according to claim 3, wherein upon switching the exciting beam splitter, the correction portion controls to rotate the dispersive element in accordance with the correction quantity relative to this exciting beam splitter and

displaces the spectrum image position in the spectrum direction with respect to the wavelength band extraction portion.

6. The scanning laser microscope according to claim 5, further comprising:

a scanning portion which scans the laser beam outputted from the laser beam source and irradiates the sample with the laser beam; and

a synchronization control portion which enables acquisition of spectral data at each of the scanning position on the sample from the light in the wavelength band extracted by the wavelength band extraction portion by synchronizing a scanning operation of the laser beam on the sample by the scanning portion with a rotating operation of the dispersive element,

wherein the correction portion controls a rotational angle of the dispersive element which is controlled to rotate by the synchronization control portion in accordance with the correction quantity relative to the exciting beam splitter.

7. The scanning laser microscope according to claim 3, wherein the correction portion corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in cooperation with switching of the exciting beam splitter.

8. The scanning laser microscope according to

claim 1, wherein the optical element includes spectral beam splitter which divide the light emitted from the sample into respective light according to a plurality of wavelength band.

9. The scanning laser microscope according to claim 8, wherein the correction portion previously stores a plurality of correction quantities corresponding to the respective displacements of the spectrum image position relative to each of the spectral beam splitters, and corrects the positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity relative to the spectral beam splitter when switched to this spectral beam splitter.

10. The scanning laser microscope according to claim 9, wherein the wavelength band extraction portion has a variable slit movable in the same direction as the spectrum direction, and

upon switching the spectral beam splitter, the correction portion moves the variable slit in the spectrum direction in accordance with the correction quantity relative to this spectral beam splitter.

11. The scanning laser microscope according to claim 9, wherein upon switching the spectral beam splitter, the correction portion controls to rotate the dispersive element in accordance with the correction

quantity relative to this spectral beam splitter, and displaces the spectrum image position in the spectrum direction with respect to the wavelength band extraction portion.

12. The scanning laser microscope according to claim 11, further comprising:

a scanning portion which scans the laser beam outputted from the laser beam source and irradiates the sample with the laser beam; and

a synchronization control portion which enables acquisition of spectral data at each of the scanning positions on the sample from the light in the wavelength band extracted by the wavelength band extraction portion by synchronizing a scanning operation of the laser beam on the sample by the scanning portion with a rotating operation of the dispersive element;

wherein the correction portion controls a rotational angle of the dispersive element which is controlled to rotate by the synchronization control portion in accordance with the correction quantity relative to the spectral beam splitter.

13. The scanning laser microscope according to claim 9, wherein the correction portion corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in cooperation with switching of the spectral beam

splitter.

14. The scanning laser microscope according to claim 1, wherein the optical element includes a plurality of exciting beam splitters which separate light emitted from the sample from the laser beam and can be switched to each other, and a plurality of spectral beam splitters which divide the light emitted from the sample into respective light in accordance with a plurality of wavelength bands.

15. The scanning laser microscope according to claim 14, wherein the correction portion previously stores a plurality of correction quantities corresponding to the respective displacements of the spectrum image position with respect to respective combinations of switching between the plurality of exciting beam splitters and between the plurality of spectral beam splitters, and corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity relative to one or both of the exciting beam splitter and the spectral beam splitter when one or both of the exciting beam splitter and the spectral beam splitter are switched.

16. The scanning laser microscope according to claim 15, wherein the wavelength band extraction portion has a variable slit movable in the same direction as the spectrum direction, and

when one or both of the exciting beam splitter and the spectral beam splitter are switched, the correction portion moves the variable slit in the spectrum direction in accordance with the correction quantity relative to a combination of the exciting beam splitter and the spectral beam splitter.

17. The scanning laser microscope according to claim 15, wherein, when one or both of the exciting beam splitter and the spectral beam splitter are switched, the correction portion controls to rotate the dispersive element in accordance with the correction quantity relative to a combination of the exciting beam splitter and the spectral beam splitter, and displaces the spectrum image position in the spectrum direction with respect to the wavelength band extraction portion.

18. The scanning laser microscope according to claim 17, further comprising:

a scanning portion which scans the laser beam outputted from the laser beam source and irradiates the sample with the laser beam; and

a synchronization control portion which enables acquisition of spectral data at each of the scanning positions on the sample from the light in the wavelength band extracted by the wavelength band extraction portion by synchronizing a scanning operation of the laser beam on the sample by the scanning portion with a rotating operation of the

dispersive element,

wherein the correction portion controls a rotational angle of the dispersive element which is controlled to rotate by the synchronization control portion in accordance with the correction quantity relative to a combination of the exciting beam splitter and the spectral beam splitter.

19. The scanning laser microscope according to claim 15, wherein the correction portion corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity in cooperation with switching of one or both of the exciting beam splitter and the spectral beam splitter.

20. The scanning laser microscope according to claim 1, wherein the correction portion previously stores a plurality of correction quantities corresponding to the respective displacements of the spectrum image position relative to each of the optical element, and corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity relative to the optical element when switched to this optical element.

21. The scanning laser microscope according to claim 20, wherein the wavelength band extraction portion has a variable slit movable in the same

direction as the spectrum direction, and

upon switching the optical element, the correction portion moves the variable slit in the spectrum direction in accordance with the correction quantity relative to this optical element.

22. The scanning laser microscope according to claim 20, wherein, upon switching the optical element, the correction portion controls to rotate the dispersive element in accordance with the correction quantity relative to this optical element, and displaces the spectrum image position in the spectrum direction with respect to the wavelength band extraction portion.

23. The scanning laser microscope according to claim 22, further comprising:

a scanning portion which scans the laser beam outputted from the laser beam source and irradiates the sample with the laser beam; and

a synchronization control portion which enables acquisition of spectral data at each of the scanning positions on the sample from the light in the wavelength band extracted by the wavelength band extraction portion by synchronizing a scanning operation of the laser beam on the sample by the scanning portion with a rotating operation of the dispersive element,

wherein the correction portion controls

a rotational angle of the dispersive element which is controlled to rotate by the synchronization control portion in accordance with the correction quantity relative to the optical element.

24. The scanning laser microscope according to claim 20, wherein the correction portion corrects a positional relationship between the spectrum image position and the wavelength band extraction portion in accordance with the correction quantity in cooperation with switching of the optical element.

25. A scanning laser microscope comprising:

a laser beam source which outputs laser beam;

a dispersive element which disperses light emitted from a sample when irradiating the sample with the laser beam and makes spectrum;

an image formation element which forms an image of the spectrum made by the dispersive element;

a photodetector having a plurality of detection portions each of which detects the light in each wavelength band being arranged in the spectral direction;

at least one optical element which is selectively arranged between the sample and the dispersive element; and

a correction portion which corrects a position of each detection portion which reads a light detection value correspond to the displacement of the position of

the spectrum image displaced in the dispersion direction due to a change in an angle of the light which enter the dispersive element by switching the optical element.

26. The scanning laser microscope according to claim 25, wherein the optical elements includes exciting beam splitters which separate light emitted from the sample from the laser beam and can be switched to each other.

27. The scanning laser microscope according to claim 26, wherein the correction portion previously stores a plurality of correction quantities corresponding to the respective displacements of the spectrum image position relative to each of the exciting beam splitters, and corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in accordance with the correction quantity relative to the exciting beam splitter when switched to this exciting beam splitter.

28. The scanning laser microscope according to claim 27, wherein the correction portion corrects a positional relationship between the spectrum image position and a position of the detection portion which reads the light detection value in cooperation with switching of the exciting beam splitter.

29. The scanning laser microscope according to claim 25, wherein the optical element includes a plurality of spectral beam splitters which divide the light emitted from the sample into respective light in accordance with a plurality of wavelength band.

30. The scanning laser microscope according to claim 29, wherein the correction portion previously stores a plurality of correction quantities corresponding to each of the displacements of the spectrum image position relative to each of the spectral beam splitters, and corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in accordance with the correction quantity relative to the spectral beam splitter when switched to this spectral beam splitter.

31. The scanning laser microscope according to claim 30, wherein the correction portion corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in cooperation with switching of the spectral beam splitter.

32. The scanning laser microscope according to claim 25, wherein the plurality of optical elements includes a plurality of exciting beam splitters which

separate light emitted from the sample from the laser beam and can be switched to each other, and a plurality of spectral beam splitters which divide the light emitted from the sample into respective light in accordance with a plurality of wavelength bands.

33. The scanning laser microscope according to claim 32, wherein the correction portion previously stores a plurality of correction quantities corresponding to each of the displacements of the spectrum image position with respect to respective combinations of switching between the plurality of exciting beam splitters and between the plurality of spectral beam splitters, and corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in accordance with the correction quantity relative to each combination of switching of the exciting beam splitter and the spectral beam splitter when one or both of the exciting beam splitter and the spectral beam splitter are switched.

34. The scanning laser microscope according to claim 33, wherein the correction portion corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in cooperation with switching of one or both of the

exciting beam splitter and the spectral beam splitter.

35. The scanning laser microscope according to claim 25, wherein the correction portion previously stores a plurality of correction quantities corresponding to each of the displacements of the spectrum image position relative to each of the plurality of optical elements, and corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in accordance with the correction quantity relative to the optical element when switched to this optical element.

36. The scanning laser microscope according to claim 35, wherein the correction portion corrects a positional relationship between the spectrum image position and a position of the detection portion which reads a light detection value from the photodetector in cooperation with switching of the optical element.

37. A scanning laser microscope comprising:

a laser beam source which outputs laser beam;

a dispersive element which disperses light emitted from a sample when irradiating the sample with the laser beam and makes spectrum;

an image formation element which forms an image of the spectrum made by the dispersive element;

a photodetector having a plurality of detection portions each of which detects the light in each

wavelength band being arranged in the spectral direction;

at least one optical element which is selectively arranged between the sample and the dispersive element; and

a correction portion which moves the photodetector in the same direction as the spectrum direction correspond to the displacement of the position of the spectrum image displaced in the dispersion direction due to a change in an angle of the light which enter the dispersive element by switching the optical element.

38. A scanning laser microscope comprising:

a laser beam source which outputs laser beam;

a plurality of spectral beam splitters which divide the light emitted from a sample into respective light in accordance with a plurality of wavelength band when irradiating the sample with the laser beam;

a plurality of dispersive elements which disperse to spectrums the respective light according to the plurality of wavelength band divided by the plurality of spectral beam splitters;

a plurality of image formation elements each of which forms an image of each of the spectrums dispersed by the plurality of dispersive elements;

a plurality of wavelength band extraction portions which are arranged in the vicinity of respective image

formation positions of the respective spectrums image-formed by the plurality of image formation elements, and extracted respective light in at least one wavelength band from the respective spectrums;

a plurality of photodetectors which detect the respective light according to the wavelength band extracted by the plurality of wavelength band extraction portion; and

a correction portion which previously stores a plurality of correction quantities corresponding to each of the displacements of the spectrum image position relative to each of the plurality of spectral beam splitters, controls to rotate the dispersive elements in accordance with the correction quantity relative to the spectral beam splitter when switched to this spectral beam splitter, and corrects the spectrum image positions relative to the wavelength band extraction portions.